

***Addressing climate change in  
the agricultural sector, in times  
of COVID 19 pandemic:  
Experiences in Nicaragua***

**Farmer : Julio Aldolfo Lara**



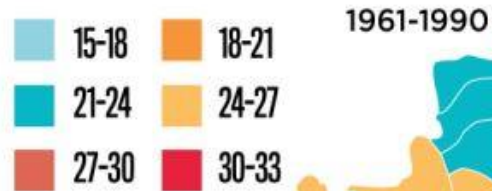
VIDEO EXHIBITOR

# Observations on climate change

2014-2016: drought  
2017: flood

- The drought causes low yield, Bean's yield between 450- 650 kg / ha.

## NICARAGUA: PROMEDIO ANUAL EN GRADOS CELSIUS



2100  
+4.2 °C

Rain excess

### PROYECCIONES DE LA TEMPERATURA MEDIA EN NICARAGUA

■ 1986 a 2005   ■ 2020 a 2039



FUENTE: Cepal y Clima Portal de The World Bank Group



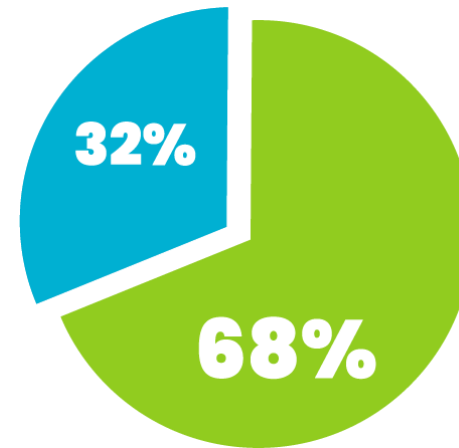
Drought



VIDEO EXHIBITOR

# Seed Banks of Community

- 290 tons of bean seeds
- 362 tons of Rice seeds
- Better prepared producers
- Value Added to the Market



Commercial  
Seed

**Frijol**  
PROYECTO INTA-TAIWÁN ICOP

**Proyecto Arroz**

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# Case No.1

## BEAN SEED BANK “EL ESFUERZO”

### Cultivar

- Improved seed for drought
- Biological materials
- Use mulch etc.



### Organisation

- Cooperation fund
- Sufficient manpower

### Marketing

- Promotion activities
- Seed Supply to Managua



**Before :**

The yield is about 0.7 ton / ha.

**After :**

The yield could be better than 1.3 ton / ha.

VIDEO EXHIBITOR

# Use Biofertilizers-Rizhobium

- Application: 0,7 ha of the INTA Rojo variety established by using 100 lb of 18-46-0 plus 500 g of Rhizobium.
- Yield: each plant produce 20 to 30 pods, with 5 to 6 grains, obtained 1,470 kg / ha.

*Srijal*  
PROYECTO INTA-TAIWÁN ICDF



VIDEO EXHIBITOR

# Case No.2

## RICE SEED BANK “REGALO DE DIOS”

**Name:** Jaqueline Molina Uriarte

**Title:** Coordinadora de Banco de Semilla Comunitario

**Results:** They produced less than 3 ton/he, and after the capacity building, they could have more the 5 ton/he, because the Taiwan mission training built our capability.



**Before :** 2.7 ton / ha in 2 hectares.  
**After :** 5.4 ton / ha in 4 hectares.

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# Case No.3

## Pilote Project to Climate Change

### RICE SEED BANK “MIRA LEJOS”



**Coordinator of Seed Bank :** Damián Amador

**Results :** Their rice field has 7 hectare with 4 times productions than before since last year, so that they could buy their own crushing mill.



**Climate Change**  
adjustment of  
sowing date.

**Before :** not grow rice for 30 yrs.

**After :** They could bought their own crushing mill.

**For Covid – 19**  
Produce local,  
consume local



VIDEO EXHIBITOR

# Case No.4- Plantain

## COOPERATIVE EL ENSAYO R.L. CHINANDEGA

**President of Cooperative :** Lorenzo Laguna

**Benefits of using tissue culture seedlings:**

- Healthy plant (disease-free)
- Uniform growing and harvesting
- Better performance and yield
- Secure investment

**Before :** 90,000 units / Ha. in 7 ha  
**After :** 128,000 units / Ha. in 28 ha  
**Net profit \$ 48,000**



**VIDEO EXHIBITOR**

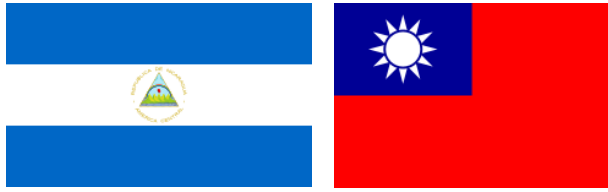


# Impact of the Pandemic

- Marketing concentrated in the community (less mobilization in the city).
- The closure of markets and difficulty in transporting make production sale less easy.
- Shortage of labor for crops.
- Seed bank is a model that can survive in this situation.



VIDEO EXHIBITOR



# *Thank You*

The logo for Srijel, featuring the word "Srijel" in a stylized, dark red, cursive font. A large blue arc is visible on the left side of the image, partially overlapping the logo.

Srijel

The logo for Proyecto Arroz, featuring the word "Proyecto" in yellow and "Arroz" in green, with a stylized rice plant illustration to the right.

Proyecto  
Arroz



VIDEO EXHIBITOR